

Ergonomics 2019: Prevalence of musculoskeletal disorders according to age and seniority in the job among Algerian construction workers-Argoub Mohammed and Bouhafs Mebarki- University of Ibn Khaldoun, Algeria University of Oran2, Algeria

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Abstract

Introduction: Work musculoskeletal disorders (WMSDs) is one of the common health problems in many occupational activities. For its high physical work demands, construction tasks are considered as a favorable terrain of WMSDs and many other ergonomic risk factors. Consequently, as (Umer, et al., 2018) pointed out WMSDs are considered as the common occupational disease among workers in the construction sector. Construction tasks are assumed to be at the grassroots of WMSDs as they contain all the WMSDs intriguing factors, such as lifting heavy items, bending, reaching overhead, pushing and pulling heavy loads, working in awkward body postures and performing repetitive tasks. High prevalence of musculoskeletal disorders among construction workers pose challenges to the productivity and occupational health of the construction industry (Umer, et al., 2016). A recent systematic review (Umer et al., 2017a) found that more than 50% of the construction workers suffer from symptoms of low back MSDs annually around the globe.

According to official figures, the declared workforce in the building and construction sector in Algeria counts for 20.1% of the total active workforce in 2015 (ONS, 2015). While, the real situation is quite different, as the non-declared workforce in this sector is estimated to be much higher (Mebarki and Argoub, 2015). The lack of real statistics, both on construction workforce and on the prevalence of WMSDs is reflected on the classification of WMSDs, as a second-class occupational disease. Therefore the need to prevent working persons from developing WMSDs has to assume even greater importance (Hellig, et al., 2018).

The aim of the present paper is to investigate the prevalence of WMSDs in different body parts, in two construction jobs (Bricklayers and bricklayers' assistants) and their relationship with age and seniority in the job.

Methods: This study was conducted on a sample of 126 workers (53 bricklayers and 73 bricklayers' assistants) in a construction company based in Oran, Algeria.

As semi-structured interviews, the "Musculoskeletal Health Questionnaire" (IRSST, 2001) was conducted to test the prevalence of WMSDs among the study subjects. For the purpose of the present study, the following parameters were calculated: percentage of pain spread in tasks performing body joints, mean and standard deviation of: age, weight, height and seniority in the job.

Results: The results of the study showed that WMSDs are widespread among members of the sample in different body parts. Their answers on the main question, of pain feeling areas of the body, during the last 12 months of their work assignments was as follows: (a) 80.95% of the sample members felt pain in the lower back area, (b) 80.15% complained of pain in the right hand wrist (as a dominant hand), (c) 52.38% at the ankle/feet, while (d) 23% of the respondents felt pain at the shoulder. These body joints are extremely solicited, by bricklaying tasks and work tools, which need urgent ergonomic considerations.

As far as, the prevalence of WMSDs among different age groups is concerned, the study revealed a wide spread of pain feeling among different age groups. Although, two age groups [31-35] years and [41-45] years are the most complaining groups, of pain in body parts that are task solicited, the younger groups also felt pain in the same areas of the body, but less frequently. This can be explained by the relationship between age and seniority in the job, as body joints of the older workers are consumed throughout time, by inappropriate working conditions, more than younger workers. This was quite obvious in the senior groups (more than 6 years of seniority in the job), 87.8% of them complained of pain in different body parts, while those below 6 years of seniority did not exceed 61% of pain complaints. These results are confirmed by (Vuillaume, 1999; Nguyen, et al., 2009), in their comparison between short and long term exposure to varied workloads.

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Conclusion: The study concluded that bricklaying tasks, work methods and work tools are at the grassroots of WMSDs in bricklayers and bricklayers' assistants Jobs. This needs urgent ergonomic improvements on the bricklayer's workstation as a whole

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